License Reduction Research Summary

Working Draft – July 3, 2020

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Introduction

To support the Washington Department of Fish and Wildlife's (WDFW) exploration of a license reduction program for the Columbia River commercial gillnet fishery, we researched several license reductions programs to better understand the steps, design options and decision points involved and uncover lessons learned that can be applied to our process. Information was gathered through reports, research publications and other publicly available materials, as well as through conversations with managers involved in the development of past license reduction programs. The following summary is intended to communicate initial findings from the research conducted to date with WDFW leadership, Columbia River Commercial Advisors, and license holders interested in participating in the process. **This summary is a working draft** and will be updated and refined as we gather new information and identify the questions and considerations most relevant to the Columbia River.

The draft summary is organized into four sections

1. **Executive summary** – provides a high-level overview of lessons learned, design considerations and case study examples.
2. **Federal and state legal frameworks** – briefly outlines the legal authorities for license reduction and the requirements for federal funding under the Magnuson-Stevens Act and Interjurisdictional Fisheries Act. More detail on relevant state and federal statutes and regulations is provided in the appendix.
3. **Decision points and questions for developing license reduction** – summarizes the range of decision points and design options reflected in the license reduction programs we researched, along with lessons learned and questions applicable to those decision points.
4. **License reduction examples** – summarizes the seven license reduction programs explored to date and the goals, design elements and outcomes from those programs.

1. Executive Summary

License reduction programs, also referred to as fishery buybacks, are a tool state and federal fishery managers have traditionally used to address overcapacity, overexploitation of fish stocks and distributional fishery issues.[1] License reduction programs have been developed for a wide range of fisheries in order to achieve a wide range of fishery-specific goals, such as increasing economic efficiency, adjusting fleet structure and providing disaster relief. As a result, many different program structures, design elements and funding mechanism have been used to tailor programs to their specific goals.

To support WDFW's exploration of a license reduction program for the Columbia River commercial gillnet fishery, we researched several license reductions programs to better understand the steps, design options and decision points involved and uncover lessons learned that can be applied to our process. This executive summary highlights some of our key findings, organized around three topics:

- Lessons learned on program design
- Legal frameworks for state and federal programs; and
- License reduction examples which provides short summaries of the seven programs we explored.

Designing license reduction programs

There are a number of questions and considerations that inform the design of license reduction programs. Setting goals and defining the scale and scope help establish a big picture architecture for the program. More detailed considerations, such as how to structure the bidding process and determine eligibility help you craft a program in response to your goals. Section 3 of the report provides an in depth look at the following design questions and decision points:

- What are your goals?
- What are you purchasing back?
- How much will the program cost?
- What are the rules for participation?
- How should you structure the bid process?
- How many iterations and for how long should bidding remain open?
- What restrictions should be placed on future fishery participation?
- What's the value of a license (or other asset being purchased)?
- What are the funding options?
- What external impacts should you consider?

Looking at program design across the different programs we researched, there are several big-picture lessons we can draw from past experience. Some of these lessons learned are listed below.

[1] D. Squires, Fisheries buybacks: a review and guidance. Fish and Fisheries, 2010. 11. 366-387

It's important to establish clear goals and objectives.
The first and most important step in designing license reduction programs is to establish clear goals and objectives for the program and to understand the future state of the fishery you are trying to facilitate. This will help you make important design choices in line with your goals. For programs designed to achieve capacity reduction, determining the target size of the fleet and required reduction will help you achieve more meaningful and efficient outcomes.

You have to secure funding for the program.
Just as important as setting goals is ensuring that you can fund the resulting program. Two of the programs we explored were developed but never implemented because funds could not be secured to implement the programs. For example, the Washington Coastal Dungeness Crab program was developed over two years with strong industry support and a robust exploration of goals, design decisions and funding options. However, the federal and state funds simply weren't available to support the program.

There is a close relationship between goals and funding.
The programs we explored seemed to emerge in one of two ways. Some programs were built from scratch in recognition of the need to reduce capacity and achieve specific goals. Others were developed in response to a fishery disaster with funds provided through federal disaster assistance. This is an important distinction as to whether programs are more end-state, goal oriented or more distributional. While in an ideal world you would design a program around your goals and then secure funding for full implementation, the reality is that funding may be the limiting factor and require you to prioritize goals and adjust the program to fit within that budget. While this creates a bit of a "catch 22" it illustrates the value of making sure your goals are both a driving factor and a reflection of what you can realistically fund.

Stakeholder engagement is key to success.
Strong industry support and involvement is critical to developing a successful license reduction program. Several of the programs we explored were developed in direct response to industry requests and were designed in close collaboration with the industry. In these programs, they found that smaller advisory groups and industry committees were helpful in providing detailed input over time and ensuring the process moved forward. However, broad engagement with license holders was also important to set appropriate goals and expectations and provide important information about how many are interested in participating and what they feel is a fair price. This helps to establish a realistic budget and build a program that is more likely to unfold as planned.

It's important to close loopholes.
In order to achieve the program's goals, it's important to identify and close loopholes. In two of the programs we explored, some individuals who sold their licenses (and vessels) used the funds they received to re-enter the fishery, sometimes purchasing multiple latent licenses and actually increasing their activity in the fishery. This was in contrast to the program goals of reducing active capacity in the fishery.

Be aware of impacts you want to avoid.
Just as important as articulating what you want to achieve is identifying what you want to avoid. For example, license reduction programs can have community and infrastructure impacts and may shift effort to other fisheries. Identifying these at the outset can help you design a program that minimizes or mitigates undesired impacts.

Consider incentives and disincentives to participation.
There are a number of factors that can influence the decision to participate in a license reduction program. One of the disincentives or barriers to participation is the time and cost associated with gathering information in order to make informed decisions about whether or not to participate and if so, how much to bid. Helping license holders have the information they need and reducing uncertainty where possible can help lower the decision barrier. However, past experience also suggests that providing price information can impact the efficiency of the program. For example, providing a range or maximum purchase price may improve participation, but it can also influence how people formulate bids and shift the price of bids upwards.

Federal and state legal frameworks

In the United States, license reduction programs have been authorized and funded through a number of federal and state statutes and regulations. For federal programs, the Magnuson Stevens Act (MSA) and the Interjurisdictional Fisheries Act (IFA) provide for license reduction as part of the response to fishery resource disasters (MSA 312(a) and IFA 308(b)(d)) and for voluntary capacity reduction programs (MSA 312(b)). Funding for programs that quality for disaster relief can be appropriated by Congress or the Department of Commerce. Voluntary capacity reduction programs can be funded through specific congressional appropriations, the Saltonstall-Kennedy Act, an industry fee system (established under the Merchant Marine Act) and from public, private or non-profit organizations. Several conditions apply to MSA and IFA programs, both in terms of qualifying for assistance and requirements for the design of programs.

The State of Washington's administrative code includes two sections pertinent to license reduction. The State's authority to buyback licenses and vessels stems from federal court decisions allocating fishery resources between tribal and non-tribal sectors. In 1975 the Washington State legislature authorized the state to purchase vessels, licenses, gear and permits due to the economic hardship incurred as a result of these court decisions. The administrative code outlines several parameters for license reduction (e.g., permanent retirement of licenses, ability to set maximum purchase prices) and also establishes accounts within the state treasury that can be used to administer programs.

License Reduction Examples

To date, we have explored seven license reduction programs, which are briefly summarized here. These programs have been designed for a variety of fisheries, including salmon,

groundfish, crab and sea urchin. Program costs and funding also varied widely, with program budgets as low as $175,000 and as high as $50 million. Funding sources included federal disaster funding, congressional appropriation for MSA capacity reduction, industry financing and fee systems, and state funding. Of the programs we reviewed, five were fully implemented while two have not been implemented due to lack of funding. More detailed descriptions of the goals, design elements, results and lessons learned are included in section 4 of the report.

Oregon Columbia River Commercial Gillnet Proposal

In 2018 a draft buyback program for Oregon Columbia River gillnet licenses was developed by Markee & Associates in collaboration with key sport and commercial stakeholders. The proposed voluntary buyback program sought to remove around 200 commercial permits through a three tier, fixed price program. The tiers (dormant, middle and upper) were based on recent participation and landings and purchase prices were proposed for each tier. The total cost of the program was estimated at $12,750,000, including $750,000 for seafood processors. The draft program also included a minimum commercial allocation and the establishment of a Hatchery Funding Account where monies from the Columbia River sport endorsement fee would be directed. The Oregon legislature expected it would only be able to provide $2 million of the more than $12 million needed to fund the program and thus implementation of the buyback plan was not pursued. However, there continues to be interest among commercial and sport fishermen to pursue a buyback in Oregon.

Washington Coastal Dungeness Crab Proposal

Between 2006 and 2008 WDFW explored a license buyback program for the Washington Coastal Dungeness crab fishery. Following a court decision expanding state-tribal sharing to include shellfish, the commercial fishery was overcapitalized relative to the new allocation and the management measures in place (e.g., delayed start, area closures) made it difficult to achieve a stable and economically viable fishery. The proposed program intended to purchase 80 licenses (a 35% reduction) through a voluntary auction with the lowest bids accepted first. The program's cost was estimated at $50 million based on a survey of license holder interest and likely bid amounts. Unable to meet the criteria for federal disaster funding, the program was to be funded through either federal funding under the MSA capacity reduction program, direct Congressional appropriation (preferred), and/or from the State. Despite strong industry support and a robust, stakeholder-driven process to design the program, the buyback was never implemented due to lack of state and federal funding.

Washington Commercial Salmon Fishery Programs

Between 1995 and 1998 Washington State ran three buyback programs for multiple segments of the state's commercial salmon fisheries. These buyback programs were federally funded under the Interjurisdictional Fisheries Act and the Magnuson-Stevens Act, and were intended to remove capacity and alleviate harm as the result of fishery disaster. The three salmon buyback programs utilized a variety of methods which reflect the two different objectives. The first program in 1995 was structured as a reverse auction where bids were accepted from lowest to

highest until funds were exhausted with a maximum purchase price. 83 licenses were removed for an average price of $21,998. The second program in 1996-1997 was structured as a reverse auction where bids were scaled based on a "salmon decline impact" (SDI) factor to relate bid price to economic losses. A maximum purchase price was also set. 52 licenses were purchased for an average price of $45, 145. The third program in 1998 was run in two phases. The first phase was structured as fixed-rate program and purchased 61 licenses for the prescribed $10,000 offered. The second phase of the program was structured in the same manner as the 1996-1997 program and purchased 9 licenses for an average of $27,378. In total, the three programs combined removed 41% of the Columbia River gillnet licenses.

The dual objectives of capacity reduction and disaster relief make it challenging to evaluate the success of these programs. While a significant number of licenses were removed, the programs may not have removed a significant amount of active fishing capacity. The three programs appear successful in transferring income to fishermen; however, they were not particularly cost efficient (i.e., maximizing the number of licenses removed per dollar spent). The fluctuations in bid prices across the three programs also raises interesting questions about how license holders formulate bids and how they perceive the value of the asset relative to future net benefits or compensation for losses.

Washington Sea Urchin and Sea Cucumber Program

Between 2002 and 2013 WDFW ran two simultaneous license reduction programs for the commercial sea cucumber and sea urchin fisheries. The goal of the programs was to improve economic stability and align capacity with available harvest following the expansion of state-tribal sharing. The voluntary programs were funded by a small increase (~2%) in industry fees and structured as a reverse auction with a maximum purchase price set each year. Over the course of 11 years, 19 sea urchin license and 24 sea cucumber licenses were purchased, bringing each fishery close to the goal of 20 remaining licenses in each. The long duration of the programs was a product of the funding structure. The small increase in fees minimized the economic impact on the industry but also resulted in slow accumulation of funds whereby only a few licenses could be purchased in any given year. The license reduction programs were successful for WDFW and the industry. Those that sold their licenses were happy with the value they received, those that remained saw the value of the fishery increase, and management of both fisheries became simplified with the removal of latent licenses.

Pacific Coast Groundfish Program

In 2003, a buyback program was implemented for the Pacific Groundfish limited entry trawl fishery following years of persistent overcapitalization, declining fish stocks and economic failure. The program was structured around groundfish trawl vessels, which required relinquishments of all associated federal and state permits and the vessel's legal authority to participate in any domestic or foreign fishery. A reverse auction was used whereby bids were scaled by the value of the vessel's harvest in order to remove the maximum amount of active capacity for the lowest price. In total, the program removed 91 vessels and 239 associated

permits. The program was funded by $10 million in congressional appropriations and a $36 million federal loan through the MSA capacity reduction program and the Merchant Marine Act. Initiated and developed by the industry, the program was complex given the simultaneous removal of several different permits and the administration of sub-loans for each permit type. However, this was an important element of the program to ensure that effort would not shift into other fisheries. While the program is generally considered a success, the anticipated economic benefits may have been diluted by the re-entry of buyback participants, community-level impacts, and challenges with repaying the industry loan.

Maryland and Virginia Blue Crab Programs

The states of Maryland and Virginia implemented buyback programs for commercial blue crab pot licenses in 2009. The programs were funded through federal disaster funding ($3 million for Maryland and $6.7 million for Virginia). The intent of the buyback programs was to help rebuild the stock and support a more sustainable fishery once rebuilt. Maryland first structured its program as a reverse auction; however, low participation rates and higher than expected bids led the state to reject all bids and implement a fixed bid program. The fixed bid program saw much higher participation and many who had previously bid in the auction were willing to accept a much lower fixed price. Virginia structured its program as a three-tier reverse auction. The tiers were based on recent participation level in the fishery, and bids were scaled based on the number of pots allowed by the license and the average days of reported harvest. In total, 359 Virginia licenses were removed; however, almost a quarter of those purchased another license and re-entered the fishery. A Ph.D. dissertation Geret Sean DePiper (University of Maryland, 2012) compared participation barriers in fixed bid and auction programs and found that both programs removed fewer licenses than they could have given the non-participation of latent license holders, who were a primary target for the program, and who would be expected to sell their licenses for the lowest amounts.

Canada Pacific Integrated Commercial Fisheries Initiative

Canada's Department of Fisheries and Oceans (DFO) runs a program called the Pacific Integrated Commercial Fisheries Initiative through which the government purchases and redistributes licenses and quota. While the primary goal of the program is to support greater First Nation participation in commercial fisheries and rural development of indigenous communities, it also provides an ongoing exit opportunity for commercial harvesters. Through an annual process, DFO solicits bids for the specific licenses and quotas it wishes to purchase. Bids are then evaluated based upon a value for money metric, supported by an annual license and vessel valuation study. This valuation study is an important element of the program and supports DFO in budgeting, planning and determining which bids to accept. The annual structure supports the voluntary nature of the program and provides ongoing opportunity for license holders to participate.

2. Federal and State Legal Framework

This section explores the federal and state legal and regulatory frameworks for license reduction, including the Magnuson Stevens Act, Interjurisdictional Fisheries Act, Revised Code of Washington and Oregon Revised Statues. Additional detail is provided in the Appendix. In pursuing license reduction for commercial gillnet license on the Columbia River, there may be a nexus with the Mitchell Act, either separately or in concert with the federal statutes below.

2.1 Magnuson Stevens Act

There are two pathways for authorizing and funding license reduction under the Magnuson Stevens Act (MSA):

- 312(a) Fisheries Disaster Relief – authorizes federal funds for commercial fishery failure due to a fishery resource disaster. The intent of the funding is to support activities that assess the impact of the failure, restore the fishery, prevent future failure and assist fishing communities impacted by the failure.
- 312(b) Fishing Capacity Reduction Program – authorizes voluntary capacity reduction programs with the objective of achieving the "maximum sustained reduction in fishing capacity at the least cost and in a minimum period of time."[2] To qualify under 312(b) the program must be "necessary to prevent or end overfishing, rebuild stocks of fish, or achieve measurable and significant improvements in the conservation and management of the fishery"[3] and meet certain management requirements for controlling catch and preventing the replacement capacity in the fishery.

Funding for these programs is authorized under 312(c) and can be provided through specific congressional appropriations, the Saltonstall-Kennedy Act, an industry fee system (established under the Merchant Marine Act) and from public, private or non-profit organizations. A Washington buyback program for salmon (see 4.3) was authorized under 312(a) in 1998. Since 2000, capacity reduction programs implemented under 312(b), have utilized industry fee systems as the primary funding. There is not a standing fund for programs under section 312 so funds must be appropriated for each program pursued.

2.2 Interjurisdictional Fisheries Act

The Department of Commerce can provide disaster assistance under the Interjurisdictional Fisheries Act (IFA). 308(b) allows for funds to be made available and prioritized for states experiencing a "commercial fishery failure or serious disruption affecting future production due to a fishery resource disaster arising from natural or undetermined causes."[4] Section 308(d) authorizes additional funds to be appropriated for persons engaged in commercial fisheries to alleviate the harm incurred from a disaster. These funds can be used for capacity reduction programs as part of the response to the disaster; however, several conditions are required for

[2] Magnuson-Stevens Act 312(b), 16 U.S.C. 1861
[3] Magnuson-Stevens Act 312(b), 16 U.S.C. 1861
[4] Interjurisdictional Fisheries Act 308(b), 16 U.S.C. 4107

awarding assistance under the IFA for capacity reduction (e.g., vessels prohibited from future fishing).

2.3 Revised Code of Washington

The Revised Code of Washington (RCW) includes two sections pertinent to license reduction: 77.80 and 77.70. The State's authority to buyback licenses stems from the US v. Washington and Sohappy v. Smith federal court decisions. In 1975 the Washington State legislature authorized the state to purchase vessels, licenses, gear and permits due to the economic hardship incurred as a result of these court decisions. This sentiment carries through in 77.80.020 with language linking the authority to purchase licenses or permits with the impact to license holders as a result of federal court decisions.[5]

RCW 77.80 also created a "vessel, gear, license and permit reduction fund" in the Washington treasury to receive funds appropriated for license reduction and administer these programs. An additional buyback fund was established under RCW 77.70 to administer the Pacific Coast Groundfish buyback program in 2003, including repayment of the industry-funded loan. While established for a specific fishery, this account could also be used to administer other license reduction programs. Columbia river commercial salmon licenses transitioned to limited entry in 1974 through RCW 77.70.090.

2.4 Oregon Revised Statues

There are a number of Oregon Revised Statues (ORS) pertaining to the management of the Oregon commercial gillnet fishery on the Columbia River.[6] Of particular interest to exploring license reduction on the Columbia River is that if the number of Oregon commercial licenses drops below 200 (as a result of non-renewal), ODFW will issue new permits by lottery, up to but not to exceed 200 total permits.[7]

Oregon requires a general fishing vessel license, an individual fishing permit, and a limited entry Columbia River gillnet permit, which is tied to the vessel but individually held.[8] The license can be transferred, either to a replacement vessel of the permit holder, to the purchaser of the vessel when sold, or to a replacement vessel not owned by the permit holder (upon approval of ODFW)[9]. Licenses can also be sold/transferred to non-residents though there is an additional fee of $50[10]. There are currently 281 Columbia River licenses in Oregon, of which about 160 have landings in the last 3 years. Approximately 84% of recent Oregon landings have come from the SAFE areas.[11]

[5] RCW 77.080, https://app.leg.wa.gov/RCW/default.aspx?cite=77.80.020
[6] Oregon Revised Statues, Chapter 508 Licenses and Permits (https://www.oregonlaws.org/ors/chapter/508) (link is to 2017; some of these provisions are found in other years' ORS)
[7] https://www.oregonlaws.org/ors/508.792
[8] Personal communication with ODFW staff, September 2019
[9] ORS 508.793
[10] OAR 635-006-1025;1075
[11] Personal communication with ODFW staff, September 2019

3. Decision points for developing license reduction programs

Our research identified a number of questions and considerations that inform the design of license reduction programs. Some help to establish a big-picture architecture such as setting goals and articulating the scope of the program, while others are more tactical and help you structure the program around your goals. The following diagram provides an overview of the decision points and questions discussed in this section.

What are your goals?

What do you want to achieve (e.g., goals, objectives, vision, principles of success)?
What do you want to avoid (e.g., undesired impacts, loopholes)?

What are you purchasing back?

(Are you removing licenses, permits, vessels?)

How many should you purchase?

(What level of reduction meets your goals?)

How much will the program cost?

(Is cost the starting point or the end calculation?)

Designing a program to meet your goals

What are the rules for participation?
(Who can submit a bid, is participation voluntary, are there structured categories?)

How should you structure the bid process?
(Should you use a fixed bid, fixed tier, reverse auction or formulaic reverse auction?)

How many iterations and how long should bidding remain open?
(Should you run the program multiple times or in stages? For how long?)

What restrictions should be placed on future fishery participation?
(Can individuals still fish in other fisheries? Can they buy back into this fishery?)

What's the value of a license?
(Is there a maximum amount for licenses? What is the license worth to fishermen?)

What are the funding options?
(What are your options and how do you build support for full funding?)

What external impacts should you consider?
(Will effort shift? What will be the impacts to fishing communities and processors?)

What are your goals?

The first step in structuring a license reduction program is establishing clear goals and objectives. While it can be tempting to jump forward into model and design choices, it's important to articulate the purpose and need for license reduction and develop a common vision for success at the outset. With these guideposts in place the process of designing a program and engaging stakeholders in the process will be more productive. Additionally, clear goals and objectives make it easier to analyze alternatives and communicate the rationale for the program.

License reduction programs have been developed for a wide range of fisheries and for a wide range of goals. Some programs have multiple goals, such as reducing overcapacity and providing disaster relief, while others may have a primary goal and additional objectives such as minimizing effort shift into other fisheries or maintaining the geographic distribution of the fishery. While goals may not be mutually exclusive, trying to address too many or competing goals may dilute the effectiveness of the program.

Some goals established in other fleet reduction programs include:[12]

- Permanent or temporary reduction in licenses/effort/capacity
- Aligning fleet capacity with resource availability
- Improving economic efficiency, profitability and/or market position
- Modernizing and adjusting fleet structure and composition
- Transitioning to or providing an alternative to rights-based management structures
- Providing disaster relief or compensation for economic harm
- Reallocation of fishing opportunity
- Addressing compensation and distributional issues
- Supporting resource or conservation goals
- Providing opportunities to exit or transition out of the fishery

What are you purchasing back?

What you decide to purchase and at what value will impact participation in the program and the effectiveness of meeting the stated goals. License reduction programs typically seek to purchase one or more of the following assets:

- A specific license or permit
- Vessels (and perhaps associated gear)
- Multiple types of license, or all licenses associated with a vessel or owner

It is far more cost effective to purchase licenses rather than vessels and as a result only one of the programs we explored targeted fishing vessels. The Pacific Groundfish buyback program removed vessels in addition to associated licenses to prevent effort from shifting into other

[12] Drawn from examples explored in section 4 and D. Squires, Fisheries buybacks: a review and guidance. Fish and Fisheries, 2010. 11. 366-387

fisheries. However, programs that only target licenses may effectively remove vessels and gear if they cannot be repurposed for other fisheries or if they don't have sufficient market value to recover the value of the vessel and gear. As a result, the market for capital investments associated with a license can have a significant impact on the prices that fishers are willing to accept for their license.

How many licenses/vessels should you purchase?

The number of licenses and/or vessels you're trying to purchase is directly related to the program's goals. For license reduction programs looking to remove capacity in order to align the fleet with resource availability or improve economic returns in the fishery, defining the target size for the remaining fleet is an important step. Programs that did not have a targeted removal amount linked to goals seemed to achieve less meaningful and/or efficient outcomes. However, for programs that deployed capacity reduction programs with disaster funds, the distribution of funds may have been equally or more important to efficiency in license removals.

For some programs, such as Washington Dungeness crab, sea urchin and sea cumber, reduction targets were straightforward given they were in response to a 50% reduction in available harvest. However, for other programs, determining the optimal fleet size and/or the number of licenses or vessels to remove can be challenging. The license reduction programs we explored used the following approaches to inform targets:

- Historical fishery data (e.g., landings, effort, ex-vessel value) and stock size trends and projections can help you determine the size of the fleet needed to harvest available biomass and the fleet size needed for the desired economic returns based on available harvest.
- Querying or surveying stakeholders can be helpful to identify the target fleet size or reduction they think is optimal to achieve the program's goals. Industry involvement was an important input for determining the number of licenses to remove in the Pacific Groundfish, Dungeness crab and Oregon Columbia River proposals/programs.
- The funds available for the program may also inform how many vessels or licenses can be purchased. For programs that begin with a set budget, prioritizing goals can help establish reduction targets. The program design elements discussed below can also inform how many licenses can be purchased with a set amount of funds.

How much will the program cost?

The cost of license reduction programs can be both a starting point for developing the program and the end result of your goals and design choices. In fact, the relationship between cost, goals and design is quite circular. Some programs are designed to achieve specific goals and then the necessary funding is pursued to execute the program. Other programs begin with a set amount of funding, particularly when federal disaster funds are being used, and then design a program relative to the available funds. This is an important distinction and reinforces the role of goals – whether the program is distributional in nature or built to arrive at a specific future state. While its critical for license reduction programs to be goal-driven, how the program will be funded,

and the relative ease of securing funds, can inform and revise your goals as you develop the program.

The cost of a particular program is informed by several factors, including:

- the value of the fishery and thus purchase prices
- whether licenses, vessels and/or gear are being purchased
- the funding source(s) and administrative costs
- other design features

What are the rules for participation?

It is important to articulate rules for participation at the outset of the program. These rules help to establish eligibility and create shared expectations on the process and parameters. Below is a list of questions that have been addressed by rules in the programs we explored:

- Is participation compulsory or voluntary?
- Is the program open to all license holders or are there qualifying requirements (e.g., recent landings, license in active status, etc.)?
- Is participation structured by categories and if so, what are the requirements for each category?
- Does the submission of a bid constitute an agreement, or can bidders later change their minds?
- Are those holding multiple target licenses required to sell all licenses?
- Do bids for multiple licenses need to be submitted separately?

How should you structure the bid process?

The structure used for soliciting and accepting bids should be linked to the program's goals and informed by the additional design choices outlined below. Regardless of the structure selected, it's important to provide sufficient information to license holders to support their decision of whether or not to participate and, if relevant, how to formulate a bid under the program. Below is a list of general structures that have been used in the license reduction programs we examined:

- Fixed bid – all license holders are offered a single, predetermined price
- Tiered fixed bid – license holders are offered a fixed price based on preset tiers (e.g., according to different license types, historical landings, recent participation levels, etc.)
- Reverse auction – license holders submit bids which are then ranked from lowest to highest and accepted in that order. This is also referred to as a low bid structure. Parameters can also be set on maximum price or highest percentile of bids that will be accepted.
- Formulaic reverse auction – license holders submit bids which are then scaled based upon a predetermined factor. For example, factors such as landings history or vessel capacity can help to scale bids so that the highest amount of capacity can be removed at the lowest price. This approach can be used for programs that directly or indirectly

remove vessels with varying capacity, or that want to factor in different usage patterns associated with the same type of license.

Each of these structures have benefits and limitations. In general, fixed bid buybacks have a lower barrier to participation, particularly for those less actively engaged in the fishery. Reverse auctions require participants to formulate independent bids (which can be a barrier to participation) but are helpful with purchasing licenses and/or vessels at the lowest cost per unit. For both, non-use factors (e.g., enjoyment, family tradition) and expectations for future usage may play a role in an individual's valuation of the asset and their decision of whether or not to participate. Some programs may utilize different structures for different phases or groups within the same program.

How many iterations and how long should bidding remain open?

Program goals, administrative costs and available funds can inform how long bidding should remain open and how many iterations to run. Longer bid windows and/or multiple iterations can contribute to the voluntary nature of the program and higher rates of participation. However, when using a reverse auction, you need to close bidding within a reasonable timeframe to prioritize and accept bids. Running multiple iterations of the bidding process can be useful to incorporate different bid structures (e.g., fixed bid followed by reverse auction) that may target different segments of the fleet, allow for adjustments to the bidding process and structure over time, and ensure all funds are spent. Multiple iterations can also make use of funds that arrive or accumulate over time or may not be fully available at the outset. The complexity and duration of the program has a direct impact on administrative costs.

An additional consideration with program duration is that willingness to accept values appear to change over time. In the license reduction programs we explored, license holders made different decisions about whether or not to participate over the course of iterations. The price of bids also changed over time. Some submitted bids that were higher than those previously awarded while others accepted significantly lower prices than were offered in a preceding round. For example, in the Maryland blue crab buyback a quarter of the active license holders who initially bid in a reverse auction (which was later cancelled) accepted a fixed bid offer in the subsequent program that was less than half what they initially bid in the auction.

What restrictions should be placed on future fishery participation?

For license reduction programs that seek to reduce effort in the fishery or avoid effort shifting into other fisheries, it's important to limit future fishing activity by buyback participants. In the Pacific Groundfish buyback program, some individuals who sold their vessel and licenses used the funds they received to purchase latent licenses and vessels and never left the fishery. Given the significant size of payouts under the program, some were able to purchase more fishing capacity than they originally sold, which was in direct opposition to the program's goals. In the Virginia blue crab buyback, almost a quarter of the budget was used to purchase licenses from individuals who turned around and re-entered the fishery, many of the whom bought multiple licenses upon re-entry.

For the Columbia River, it will be important to consider how the transferability of Washington and Oregon commercial gillnet licenses could influence the achievement of goals. Below are some key considerations that will help determine what restrictions to place on a fleet reduction program:

- Can individuals purchase another license and participate in the same fishery?
- Can individuals participate in other state or federal fisheries?
- Can the vessel participate in the fishery under a different license or in other fisheries?
- Over what timeframe should restrictions be in place (e.g., in perpetuity, for 10 years, until the fishery reaches some specified threshold)?

What's the value of a license?

In the license reduction programs we explored, purchase prices varied widely and appear to be a function of the overall value of the fishery (e.g., volume and ex-vessel value), the capital invested (e.g., vessels and gear) and the current and expected future status of the resource. The specific prices at which individuals were willing to sell also varied widely within each program and were not static over time. In general, most buybacks have offered and accepted prices above market value to entice participation. Buyback purchase prices can be estimated by examining license purchase and transfer prices, vessel sale prices, license renewal fees, recent and projected revenue and landings, and surveying license holders on the price they are willing to accept. The following steps can be helpful in shaping your program and estimating program costs:

- Outreach to license holders – It's helpful to involve license holders in determining reduction targets and fair market values. This will help you establish a budget for the program that is more likely to result in the purchasing power you anticipate.
- Economic analysis – Having an economic analysis on license values can help you to set parameters for the bids you will and will not accept and develop an appropriate budget. Making this information public could also lower the barrier to participation and support bidding within the acceptable range. However, publishing a range or maximum purchase price may create incentives for people to submit bids much higher than their actual willingness to accept values.

What are the funding options?

For license reduction programs to be effective you have to have the money to achieve what you've set out to do. Two of the programs we research were developed but never implemented because sufficient funding could not be secured. While there have been many license reduction programs implemented with federal funding in the 1990s and 2000s, conversations with fishery management professionals suggest that federal funding has become harder lift in recent years, particularly without matching industry funding. Depending on the intent and authorizing statute, federal funding may also come with requirements that could prove problematic or less than optimal. For example, funding under the MSA requires certain management measures to be in place and has to be implemented by the National Marine Fisheries Service, rather than funds being transferred to states for implementation.

Below is a list of various funding sources used for fleet reduction programs we researched.

- Federal disaster funding (MSA 312 (a) and IFA 308 (b and d))
- Federal capacity reduction (MSA 312 (b))
- Federal appropriation (not linked to MSA or IFA)
- State funding
- Industry financing (MSA Merchant Marine Act loan; private financing)
- Private funding

What external impacts should you consider?

When designing license reduction programs, additional design considerations may also be appropriate to achieve your goals and avoid undesirable impacts. For example, the Pacific Groundfish program had unintended impacts on fishing communities, with some communities losing all or most of their active vessels, making it difficult for the remaining vessels maintain the needed infrastructure. The programs we explored highlighted the following considerations:

- Will fishing effort shift to other fisheries?
- What are the community and infrastructure impacts of removing fishing effort?
- Should you include provisions for non-license holders (e.g., processors)?
- Are there incentives or disincentives that may influence the level of participation in the program?
- How will the market for license change in response?

4. License Reduction Examples

To date, we have explored seven previous license reduction programs. Below are summaries of the goals, design elements, results and lessons learned for each.

4.1 Oregon Buyback Proposal, Markee & Associates, 2018

Following the 2018 Oregon legislative session Markee & Associates, an independent government relations firm[13], was enlisted by a set of lobbyists to develop a potential buyback program for Oregon Columbia River commercial permits. Markee & Associated developed a draft program by working with sport and commercial stakeholders (primarily Coastal Conservation Association (CCA) and Salmon for All (SFA) leadership).[14]

The program sought to remove approximately 200 of the 283 commercial permits through a three tier, fixed price program. The total cost for the program was estimated at $12.75 million. The issue of allocation between commercial and recreational sectors was central to buyback conversations, and thus the draft program also included language on allocation and use of the recreational license endorsement fee.

The draft buyback plan was discussed with the Oregon State Legislature; however, the legislature anticipated only being able to provide about $2 million of the $12 million needed in funding. This level of funding would only support the removal of latent permits, which they felt would not substantially advance the overall goals, and thus the conversation was tabled. However, there continues to be interest among commercial and sport fishermen to pursue a buyback.[15]

Program Goals

The proposed buyback program sought to:

- "Reduce the number of Columbia River gill net permits to make a more viable program for remaining commercial fishermen. There are 283 Oregon permits currently and the goal would be to bring to number of permits down to 70-85, so commercial fishermen and other user groups will have better economic opportunity.
- Support the implementation of the Columbia River fishery reforms as authorized by Senate Bill 830 (2013).
- It is not the intent of this program to do away with Commercial Fishing on the Columbia River."[16]

[13] http://markee.org/
[14] Draft Voluntary Buy Back Program, Markee & Associates
[15] Personal communication with Markee & Associates
[16] Draft Voluntary Buy Back Program, Markee & Associates

Program Elements

Core elements of the draft program included:

- A set purchase amount for each tier (below), open to all permit holders interested in relinquishing their permits. Should interest exceed funding, a lottery would determine whose permits are purchased, prioritized by dormant permits and then permits with the most years of fishing.
- That the program be voluntary and commercial fishermen selling permits back shall retain all rights to their boat and gear.
- $750k would be allocated to Oregon seafood processors based on revenue from Columbia River fish between 2015-2018 (provided the overall fund achieves $11 million in funding, see funding below).
- The ceiling for licenses, set in OR regulations, would be reduced as permits were sold.[17]

The draft program was structured as three separate tiers to reflect three categories of recent participation and landings, and corresponding purchase amounts. The specific thresholds in terms of landings for tier 2 and 3 was to be determined by the Commission. The highest three years of landings/revenue over the past 10 years would be used to determine the commensurate tier for each permit.

1. Dormant – permits would be considered dormant if no landings had been attributed to the permit in the last 4 years. The goal was to buy back at least 100 dormant permits for $20k each.
2. Middle Tier – permits would be considered middle tier if they had been active but with less landings than the upper tier. The goal was to buy back 50-55 middle tier permits for $75k each.
3. Upper Tier – permits would be considered upper tier if they had a high level of landings/revenue, or if the commercial fishermen owned the permit for at least 35 years and the permit is not dormant. The goal was to buy back 50-55 permits in their tier for $125,000 each.[18]

The draft program also included some language about how to address fishermen with multiple permits and that fishermen may not sell an active permit and then activate and dormant permit and later sell that permit in tier 2 or 3 under the program.[19]

Regarding allocation, the draft program stated that the Commission would continue to set allocation and gear permissions, though commercial allocations would never be set lower than the revised allocations that were anticipated to be established by the Commission in 2019. The Commission could also increase allocation in high run years to keep hatchery fish off spawning grounds, using alternative gears when feasible. Additionally, the draft program created a

[17] Draft Voluntary Buy Back Program, Markee & Associates
[18] Draft Voluntary Buy Back Program, Markee & Associates
[19] Draft Voluntary Buy Back Program, Markee & Associates

Hatchery Funding Account where all monies from the Columbia River endorsement fee would be directed moving forward.[20]

Funding

The total cost of the program was estimated to be $12,750,000.

- 100 Dormant Permits = $2,00,000
- 50 second tier permits = $3,750,000
- 50 third tier permits = $6,250,000
- Processors = $750,000
    - Total = $12,750,000 [21]

Lessons learned and considerations

- The prices established for the three tiers were determined by asking commercial permit holders what it would take for them to sell, rather than by a direct valuation of licenses and associated businesses. The ability to keep vessels and gear also informed the price. For dormant permits, the price of $20k was intended to strike a balance between something higher than the amount paid for the permit, but not so high that it would artificially increase the value of the permits. The sense was that if prices were too low fishermen wouldn't sell dormant permits given that the market value of permits would increase as permits were removed through the buyback.
- The target number of permits for removal (~200) was determined based on input from SFA. The program did not address the connection to Washington State licenses.
- A provision for processors was included; however, it was not determined how to deploy those funds given the difficulty of determining economic loss in the processing field as a result of state policy changes and/or the reduction in permits.
- It proved difficult to develop a buyback program without also addressing allocations. The sport sector wanted allocations to be locked in statute, and the commercial sector wanted to make sure that whatever was set would be a minimum rather than maximum allocation.
- Markee & Associates did consider federal funding for the program; however, given the short timeline for drafting the program, federal funding was not pursued. Additionally, there were concerns about how the timeline and uncertainty of federal funding would impact implementation (i.e., having the program contingent on uncertain funding). They also considered if Bonneville might contribute but did not pursue that further.[22]

[20] Draft Voluntary Buy Back Program, Markee & Associates
[21] Draft Voluntary Buy Back Program, Markee & Associates
[22] Personal communication with Markee & Associates

4.2 Washington Coastal Dungeness Crab, 2008

Between 2006 and 2008 WDFW explored a license buyback program for the Washington Coastal Dungeness crab fishery. The industry initiated the process with a request to the Washington State legislature, which in 2006 directed WDFW to develop a program "designed to achieve an economically viable and sustainable fishery while meeting resource and conservation objectives and treaty Indian harvest sharing obligations."[23] Two reports were produced by WDFW staff for the State Legislature; the first in January 2007 and the second in October 2008.[24]

The impetus for the Dungeness crab buyback program was overcapitalization in the fishery due to the loss of fishing opportunity resulting from implementation of the 1994 Rafeedie Decision, which expanded the state-tribal sharing established through the Boldt decision to include shellfish, thereby reserving 50% of crab harvest to treaty tribes. This represented a significant reduction in harvest for the non-tribal commercial fishery given that tribal catch of crab was negligible prior to 1994.[25]

Following the Rafeedie Decision, a number of measures were put in place to control overcapitalization, including a license limitation program, limitations on vessel length (under 99 feet) and two tiers of pot limits. Additionally, delayed-start measures and large area closures were put in place for State fishermen to accommodate tribal sharing.[26] The combination of regulations made it difficult to achieve some of the goals for the Dungeness crab fishery (e.g., economic viability and stability, even-flow of product), and aligning participation in the state fleet to address increased fishing effort from tribal participants was seen as the best way to make the fishery viable and competitive in the marketplace.[27]

While WDFW developed a buyback program with strong industry support, the program was never implemented due to lack of funding. The industry felt that the impacts of the Rafeedie Decision reduced the economic value of the state fleet significantly enough that federal disaster funding should be awarded. However, WDFW and the industry were unable to relate the economic impact directly to the court decision and thus couldn't meet the criteria to qualify for federal disaster funding. The fishery was still profitable, just for fewer people. The program put forward would have required federal funding, either through direct Congressional appropriation or under the MSA capacity reduction program, and/or from the State. Neither had the money to pay for the buyback, particularly for a program without industry contribution. The proposed program essentially faded away though discussion have started to reemerge about an industry funded program.[28]

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[23] Washington Coastal Dungeness Crab Fishery License Buy-Back Program, October 2008

[24] Development of a Buy-Back Program for the Washington Coastal Commercial Crab Fishery, January 2007, and Washington Coastal Dungeness Crab Fishery License Buy-Back Program, October 2008

[25] Washington Coastal Dungeness Crab Fishery License Buy-Back Program, October 2008

[26] Washington Coastal Dungeness Crab Fishery License Buy-Back Program, October 2008

[27] Personal communication with WDFW staff

[28] Personal communication with WDFW staff

Program Goals

The primary goal of the program was to "minimize the differences between state and treaty tribal commercial crab fishing regulations by reducing the number of state licenses that participate in the West Coast commercial Dungeness crab fishery."[29] Further, they aimed to:

- Support an economically viable and sustainable fishery in balance with resource needs and treaty obligations;
- Position the State fleet to be competitive with its counterparts in Oregon and California (i.e., reposition the WA fleet in the marketplace by removing their current disadvantage);
- Maintain (or not significantly disrupt) the current diversity of the fleet relative to vessel size and geographic distribution of the fleet (so as to protect the local economies of coastal areas dependent on the fishery); and
- Minimize adverse impacts such as increase in effort in Oregon and California by displaced fishers.[30]

Process

The process for developing the proposed Dungeness Crab buyback included:

- A survey of license holders to determine what aspects of fleet reduction would be supported by the majority of license holders and the bids that would likely be submitted.
- An ad-hoc advisory committee to advise WDFW. The group met eight times to develop options and provide comments on draft reports.
- Hiring an expert to research federal funding programs and develop alternatives for funding this buyback.[31]

Program Elements

The program was developed under the assumption of 100% federal funding and administration by Washington State. In developing the program WDFW staff and advisors considered a number of factors and approaches respective to the proposed program parameters, also outlined below.

- Participation in buyback would be voluntary with bid submission constituting agreement to the terms and conditions of the buyback.
- The program was designed to purchase and permanently retire licenses. WDFW considered purchasing vessels and concluded that the program should focus on purchasing licenses rather than vessels given that the inclusion of vessel purchase would cost over four times that of a license only buyback. WDFW also considered whether to purchase other WA, OR and CA licenses (i.e., Dungeness crab plus other associated species/gears). Of the 228 WA crab licenses, 27 were owned by people living out of state, and 65 license holders also possessed Oregon and/or California licenses. WDFW determined that requiring buyback participants to sell their OR and CA licenses would

[29] Washington Coastal Dungeness Crab Fishery License Buy-Back Program, October 2008
[30] Washington Coastal Dungeness Crab Fishery License Buy-Back Program, October 2008
[31] Washington Coastal Dungeness Crab Fishery License Buy-Back Program, October 2008

reduce the number of WA licenses purchased, thus reducing the benefits to the Washington fishery and increasing the potential for effort to shift into OR and CA (a current trend the buyback was also looking to mitigate).

- The program did not require applicants to surrender all Dungeness crab licenses. When making this determination, WDFW found that only 11 individuals/entities owned more than one crab license and that the relative impact of multiple license holders on the buyback would be low. Applicants who did wish to sell more than one license would be required to submit separate bids.
- The intent was to purchase 80 licenses thus reducing the fleet by 35% from 228 to 148 licenses. The target number of licenses to purchase was determined by an analysis of recent past fisheries data that estimated the state fleet size needed to harvest the state's share of the catch.
- Total cost for the program was estimated at $50 million, based on a survey of Washington Dungeness crab license holders exploring interest in a buyback program and the likely bid amounts.
- Applicants were to submit bids for the dollar amount for which they were willing to surrender licenses; bids would be accepted in the order of the lowest bid until funds are exhausted. WDFW considered several alternatives for ranking bids, including low bid (proposed), a bid to production ratio and weighted bids to balance the distribution of vessel length and pot limits. By analyzing the license holder survey data, they found that neither the production ratio nor low-bid options would impact the fleet size distribution enough to make a weighted bid approach necessary. WDFW recommended the low-bid option given its simplicity and ability to maximize the number of licenses purchased.
- Buyback participants would not be restricted from re-entering the fishery. When considering whether or not to limit future participation, WDFW considered options of no restriction (proposed), as well as short-term and long-term restriction. They determined limitation on future participation was linked to purchase criteria. For a reverse-bid buyback where the goal is to remove those with the largest catch/capacity, re-entry should be restricted; however, under a low-bid buyback re-entry is less likely to impact overall fleet reduction since the total fleet size has been decreased more substantially.[32]

Funding

Given that WDFW was unable to demonstrate a nexus for federal disaster funding, they explored four funding alternatives:

1. 100% federal direct appropriation (independent of MSA); State-administered. [Preferred]
2. MSA 312 capacity reduction program; 100% federally funded and administered
3. MSA 312 capacity reduction program; federal or federal/state funding, with industry contribution; federally administered
4. State appropriations, with or without industry contribution; State administered

[32] Washington Coastal Dungeness Crab Fishery License Buy-Back Program, October 2008

The preferred funding mechanism of non-MSA federal funding and State administration was selected because of the additional flexibility compared to the conditions that exist with MSA funding. MSA funded programs require:

- Full administration by NMFS;
- Total allowable catch (TAC) limits to be set for the fishery *(though an equivalent mechanism to control catch may be acceptable[33])*;
- Bids to be measured on fishing production not just price; and
- Limitation on future participation in the fishery by vessels and/or buyback participants.

It was also noted that any Federal funds would require strong and choreographed support from WA congressional reps, senators, governor and industry.[34]

Lessons learned and considerations

- It's important to establish a clear purpose and need statement. This provides people with a common starting place for what you're trying to accomplish and greatly improves the chances of success. Establishing principles for a successful outcome is also an important step. While it's tempting to jump forward, these are worthwhile steps that help set up the whole process and also provide a solid framework for developing and analyzing alternatives.
- For license reduction programs to be implemented you have to have a strong case for the funding and the money has to be there. Programs that are 100% publicly funded have a steep hill to climb. Public funding may be easier to secure with some amount of industry contributions.
- Surveying license holders was a helpful tool to inform program design and analyze alternatives
- The small, ad-hoc advisory committee was valuable for moving things forward and keeping the broader group of license holders involved. The committee was established by selecting a few key license holders and requesting volunteers. WDFW further tried to make it the advisory committee representative group by identifying seats to represent the suite of perspectives in the fishery. The ad-hoc advisory committee did the heavy lifting to develop the program and were complimented by large industry meeting to provide broader opportunity for license holders to be involved.
- In researching options, WDFW staff struggled with a lack of institutional knowledge on previous Washington buybacks to inform the design and options for this program.[35]

[33] Personal interpretation of MSA 132(b)
[34] Washington Coastal Dungeness Crab Fishery License Buy-Back Program, October 2008
[35] Personal communication with WDFW staff

4.3 Washington Commercial Salmon Fishery Buyback Programs, 1995 – 1998

Between 1995 and 1998 Washington State ran three buyback programs for its commercial salmon fisheries. The fisheries were in a state of crisis following degradation of spawning habitat, ESA listings and corresponding harvest reductions, El Nino and drought conditions, and the resulting overcapitalization of the fleet. These buyback programs were all federally funded under the Interjurisdictional Fisheries Act and the Magnuson-Stevens Act, and all involved multiple segments of the state's commercial salmon fisheries. The three programs combined removed 41% of the Columbia River gillnet licenses; 205 licenses total.[36]

1995 Buyback

The purpose of the 1995 buyback was to provide "…short-term relief to fishermen who wanted to voluntary transition out of the industry but needed financial resources to do so."[37]

- Program elements
    - The program purchased licenses (not vessels) and there were no conditions on future activity by license holder or vessel
    - To be eligible to participate, license holders had to have earned income in the fishery for at least one year from 1986-1991 and have incurred an uninsured loss (required under the IFA because of the program's rationale as disaster assistance).
    - The program used a low-bid method where license holders were asked to submit bids. Bids were then ranked in ascending order and licenses were purchased beginning with the lowest bid until all funds were exhausted. There was a cap on purchase price of 2.25 times the uninsured loss or $100,000 whichever was lower.
    - The program did not distinguish between Willapa Bay or Grays Harbor licenses.
- Funding
    - 1.7 million in disaster relief was budgeted for Columbia River licenses, provided through section 4104(d) of the Interjurisdictional Fisheries Act.
- Results
    - WDFW received 160 bids for Columbia River licenses, ranging from a low of $2,109 and a high of $100,000.
    - The program removed 83 Columbia River gillnet licenses for a total cost of about $1.8 million. The average price paid per license was $21,998, and the maximum price paid was $38,000.

1996 and 1997 Buyback

The 1996-1997 buyback had the same stated goals as the 1995 program; however, it took a different approach to distributing buyback funds across the fleet.

[36] B. Muse, ACFEC, WA Commercial Salmon Fishery Buyback Programs, 1995-1998
[37] B. Muse, ACFEC, WA Commercial Salmon Fishery Buyback Programs, 1995-1998

- Program elements
    - The program purchased licenses (not vessels) and prohibited re-entry into the fishery for 10 years.
    - Program eligibility was very similar to the 1995 program but included a "salmon decline impact" (SDI) in place of the uninsured loss criteria. The program also capped eligibility at $2 million in net revenues from commercial fishing in any year from 1991-1994.
    - The program was structured as a scaled reverse auction. License holders were asked to calculate their "salmon decline impact" between the late 1980s and early 1990s as a rough estimate of the decline in gross earnings suffered by the license holder. License holders were asked to bid, and bids were ranked by the ratio of bid price to SDI. Offers with the lowest ratios were purchased, up to a maximum bid of $75,000. This approach was introduced to give highliners a better chance at participating by relating their higher bid prices to higher economic losses.
- Funding
    - 2.3 million in disaster relief was budgeted for Columbia River licenses, provided through section 4104(d) of the Interjurisdictional Fisheries Act.
- Results
    - WDFW received 193 offers from a low of $10,000 to the maximum bid of $75,000.
    - The program removed 52 Columbia River gillnet licenses for an average price of $45,145. The largest price accepted was $75,000 (twice what the average paid in 1995, and four times the price offered in phase 1 of the 1998 buyback). In total, $2.3 million was spent to purchase licenses.

<u>1998 Buyback</u>

The 1998 buyback had similar goals to the two proceeding buyback programs including providing short-term financial relief to help license holders transition out of the fishery and improving the profitability of the fishery by removing the number of licenses. However, the funding mechanism, program design and purchase prices were quite different. The 1998 program was directed at the salmon troll, Columbia River gillnet and salmon charter licenses covered in the first two programs, plus Puget Sound gillnet licenses not previously included.

- Program elements
    - The program was conducted in two phases
        - Phase 1: Fixed bid – the state quoted set prices for licenses and offers were accepted on a first come first served basis.
        - Phase 2: If funds remained after Phase 1, WDFW would execute a second program designed as a reverse auction as described in 1996/1997 program (e.g., SDI, maximum bid of $75,000). For all but the CR gillnet fishery, funds were exhausted in phase 1.
    - Those who participated in phase 1 were not restricted from reentering the fishery; those who participated in phase 2 prohibited from the fishery for 10 years.

- Funding
    - $840,000 budgeted for Columbia River licenses, funded under section 312(a) of the Magnuson-Stevens Act, fisheries disaster relief. The nature of 312(a) funding requires 25% contribution from state governments, thus the Washington State Legislature appropriated $1.17 million in addition to the $3.5 million appropriated by Congress.
- Results
    - Phase 1: Removed 61 Columbia River gillnet licenses for $10,000 each
    - Phase 2: WDFW received 75 offers from a low of $11,244 to a high of $75,000. WDFW removed 9 Columbia River gillnet licenses for an average price of $27,378. The largest price accepted was $50,000.

<u>Lessons learned and considerations</u>

- The salmon buyback programs in the 1990s had multiple objectives. They were intended to remove licenses from the fishery and provide disaster relief (through compensating losses and supporting transition out of the fishery). These different objectives are reflected in the different program structures.
    - The 1995 program accepted bids from low to high without any scaling, which helped to distribute funds and remove as many licenses as possible. The later programs were less concerned with reducing the largest number of licenses and instead sought to compensate the maximum amount of economic loss possible.
    - The 1995 buyback was the only one of the three that tried to maximize the number of licenses removed per dollar spent given the straight low bid structure. However, the fixed bid process deployed in Phase 1 of the 1998 buyback was the most cost effective, removing 61 licenses for $10,000 each compared to an average price of almost $22,000 in 1995.
    - While the programs probably did not make a significant reduction in active capacity, or remove the maximum licenses per dollar, they were probably successful in transferring income to fishermen.
- The three buyback programs utilized a variety of methods (e.g., fixed bid, low bid, scaled bid, and maximum bid amounts) and received a wide range of bids, from $2,000 to $100,000. Looking across the four buyback iterations raises interesting questions about how license holders formulate bids, and how they perceive the value of the asset relative to future net benefits in a fixed price or low bid scenario, and relative to compensated losses in a scaled bid scenario. Including a maximum bid price may have impacted bids by skewing people's valuation of their licenses. Across all three programs, almost 40 license holders submitted a bid for the maximum amount.
- Between 1993 and 1999 the number of Columbia River gillnet licenses declined by 45%. Of this decline, about 89% was through the buyback programs and 11% was through uncompensated license expirations. For the other fisheries targeted through the buybacks the level of uncompensated expirations was much higher; around 20% in the salmon troll fishery and over 50% for the Puget Sound gillnet and seine fisheries. This

was likely due to the low market value of licenses relative to renewal fees and transfer fees.[38]

4.4 Washington Sea Urchin and Sea Cucumber, 2002 – 2013

Between 2002 and 2013 WDFW ran license reduction programs for the commercial sea cucumber and sea urchin fisheries. Following the 1994 Rafeedie Decision, quotas for sea cucumber and sea urchin were reduced and both fisheries were overcapitalized for the allowable harvest. At the request of the industry, WDFW established two simultaneous license reduction programs to improve economic stability in the fisheries.[39] Both programs sought to reduce the number of licenses by about half and were supported by a transition to limited entry in 2000. Under limited entry, no new licenses would be issued unless the number of licenses fell below 20, which was the target size for both fisheries.[40]

Program Elements

The two license reduction programs were structured as follows:

- Participation by license holders was voluntary and there were no restrictions on participation or re-entry into the fisheries.
- The program was run annually between 2002 and 2013. Each year, WDFW would set a maximum purchase price, in consultation with the industry, by November 1st. Bidding would open December 1st and then WDFW would purchase licenses based on the funds available as of January 31st of the following year.
- Bids were ranked from lowest to highest and accepted in that order until there were insufficient funds to purchase the next lowest priced bid. Unused funds would roll over to the next year.
- The program was administered by WDFW's licensing division.[41]

Funding

- The program was funded by license holders through an increase in industry paid fees (~2% of landings). These fees, approved through statutory change, were earmarked for license reduction.
- Once the programs were in place it took a couple years to accumulate fees before licenses could be purchased. As the program progressed, the landings value of sea urchin and sea cucumber increased, which allowed for faster accumulation in the fund and was also reflected in higher bids and maximum purchase price limits over time. For example, the maximum bid for sea urchin was $6,000 in 2002 and $20,000 in 2012.[42]

[38] B. Muse, ACFEC, WA Commercial Salmon Fishery Buyback Programs, 1995-1998
[39] WAC 220-340-740 (sea cucumber) and WAC 220-340-760 (sea urchin)
[40] RCW 77.70.190 (sea cucumber) and RCW77.70.150 (sea urchin)
[41] WAC 220-340-740 (sea cucumber) and WAC 220-340-760 (sea urchin)
[42] Personal communication with WDFW staff

Results

- The license reduction programs ran for 11 years and purchased 19 sea urchin and 24 sea cucumber licenses. While the target of 20 remaining license was not attained, the program was successful at aligning capacity with resource availability, and given the much higher license values, it was determined that further reduction was not needed. There are 25 sea cucumber and 23 sea urchin licenses remaining in the fishery.
- The programs were a success for WDFW and for the industry. Those that sold their licenses were happy with the value they achieved and those that remained saw value in the fishery increase. The implementation of limited entry and license reduction also simplified management. With the removal of latent licenses, the fishery became more predictable for managers and fishermen.[43]

Lessons learned and considerations

Conversations with WDFW staff highlighted several lessons and considerations that could be helpful in developing future license reduction programs.

- The license reduction programs progressed organically over time. Some license holders with minimal landings were motivated to sell their licenses sooner and for potentially less money. Others held onto their licenses until maximum bid prices began to rise. As a diver fishery, the aging of the fleet also created interest to exit the fishery.
- The program was completely industry funded, however, the administrative costs of implementing the program were absorbed by WDFW. In contemplating a license reduction program, it may be helpful to factor in expenses to the Department, particularly if the program will involve multiple rounds of implementation.
- There is a tradeoff between funding levels and timeframes. The 2% fee paid by license holders minimized the economic impact of the program on fishers, but also expanded the timeframe of the program well beyond the 5 years that was initially anticipated. Planning strategically for a long-term program could facilitate statutory authorization based on reduction targets rather than dates and avoid the need for statutory extensions.[44]

[43] Personal communication with WDFW staff
[44] Personal communication with WDFW staff

4.5 Pacific Coast Groundfish, 2003

In 2003, a buyback program was implemented for the Pacific Groundfish limited entry trawl fishery (shoreside whiting and non-whiting), following a federal disaster declaration in 2000. The program, administered through NOAA Fisheries under MSA 312(b) and the Merchant Marine Act, permanently removed 91 vessels and 239 associated permits. The program was funded through a $10 million congressional appropriation and a $36 million federal loan.[45]

Program goals

In the decade preceding the buyback program the fishery suffered from declining fish stocks (and corresponding measures to support rebuilding), persistent overcapitalization and economic failure; all of which culminated in a disaster declaration in the year 2000. During this time, the Council had been discussing the potential for an IFQ program to address overcapitalization; however, these efforts were curtailed by a temporary moratorium on new IFQ programs. Thus, the buyback arose out of the need to address overcapitalization in the near-term given the protraction of a regulatory solution.[46]

- The program's objective was to "reduce the number of vessels and permits endorsed for the operation of groundfish trawl gear," in order to "increase the remaining harvesters' productivity, help financially stabilize the fishery, and help conserve and manage fish." [47]

Process

- The Pacific Fishery Management Council's Buyback Committee developed a business plan for capacity reduction in the Pacific coast groundfish limited entry trawl fishery.[48] This formed the basis of the resulting buyback program (e.g., structure and funding).
- In 2003 congress authorized a fishing capacity reduction program for the fishery and appropriated funds for the program. NMFS then implemented the program by adding an implementation section to the Act's framework regulations.
- Following publication in the Federal Register, NMFS mailed a notice and bidding package to each permit holder. The bidding package specified the terms and conditions under which bids were to be made and accepted. The submission and acceptance of a bid constituted a contract (i.e., bidders were not allowed to withdrawal their bid or alter or negotiate any term or condition).
- Once the bid window closed, NMFS determined which bids to accept using a reverse auction. NMFS then held a referendum of permit holders to authorize the fee required to repay the loan (required under MSA), prior to accepting bids and notifying bidders.[49]

[45] PFMC draft five-year review of groundfish trawl ITQ program
[46] PFMC draft five-year review of groundfish trawl ITQ program
[47] PFMC draft five-year review of groundfish trawl ITQ program
[48] Pacific Coast Groundfish Limited Entry Trawl Permit Buyback Business Plan
[49] Federal Register notice – Vol. 68, No. 138

Program elements

The buyback program was intended to permanently remove capacity by removing fishing vessels and targeting vessels that had been active in the fishery.

- The program was built around groundfish trawl vessels, which were to be removed from operation through the purchase and/or relinquishment of groundfish permits, other federal permits, and state permits for Dungeness crab and pink shrimp registered to or used on the reduction vessel.
    - Each bidder was required to relinquish all associated federal fishing licenses, permits and endorsements, state permits for crab and shrimp, and the vessel's legal authority to participate in any fishery (domestic or foreign). Thus, the program removed corollary fishing capacity for the fisheries in which the vessels also participated.
    - Dungeness crab and Pink Shrimp permits were compensated through payment under the program; however, other permits relinquished under the program were not compensated.
- A reverse auction bidding process was used, scaled by the value of bidders' harvest.
    - Bid scores were calculated by dividing each bid amount by the average total ex-vessel value of groundfish, Dungeness crab and pink shrimp landings that correspond to the vessel and fee-share permits. NMFS used the average of the three highest years of landings from 1998-2001.
    - Bids were accepted based on the successive acceptance of the lowest bid score until all funds were exhausted. The maximum capacity of the vessel was only taken into account when prioritizing two bids with the same bid score.
- A referendum regarding repayment of the loan was required prior to acceptance of bids. The referendum required a majority approval of weighted total votes (weighted by the proportion of the loan sub-amounts for each permit type).
- The program did not address latent licenses or licenses whose owner owns no vessel.[50]

Funding

- Congress authorized $46 million total for the buyback, of which $10 million was directly appropriated and $36 million was financed by a federal loan to be repaid over 30 years with a 5% landings fee (this was reduced to 4% in 2019).
- Loan repayment is administered by fish buyers collecting the fee from fish sellers and the respective states forwarding the fee revenue to federal government. Sub-loans for CA, OR and WA Dungeness Crab and Pink Shrimp were all repaid as of 2017. There is still a significant loan balance remaining for groundfish permit holders[51]

Results

The program was successful in removing almost 35% of the capacity in the fishery.

- 91 vessels and 239 associated permits were removed, including 121 state permits for Dungeness Crab and Pink Shrimp associated with the 91 vessels relinquishing trawl

[50] Federal Register notice – Vol. 68, No. 138

[51] NOAA Fisheries Funding and Financial Services, Pacific Coast Groundfish Buyback

permits, for a total price of $45,662,471.[52] This created a smaller and better-defined group of participants and allowed the Council to relax some trip limits. The buyback program also likely helped lay the groundwork for moving to an IFQ program in 2010.

- In developing the program, it was estimated that revenue would increase by 50% following the buyback. However, the anticipated benefits may have been diluted by latent permits that were later purchased and used in the fishery.[53] Within the first 18 months following the buyback, fishermen and processers started purchasing permits and the price for permits more than doubled. During this time 20 permits were sold; half of them to individuals who sold their original permits in the buyback.[54]
- Participation in the buyback also had community-level impacts, with some communities losing all or most of their active vessels.[55]

Lessons learned and considerations

Conversations with Pacific Fishery Management Council staff and members highlighted several lessons and considerations that could inform future buyback programs:

- The reverse auction process worked well for removing active capacity in the fishery and maximizing the capacity reduction per dollar spent.
- While the removal of vessels and ancillary permits made for a complicated program, it was an important element of the program to ensure that effort would not shift into the state crab and shrimp fisheries.
- Not closing the loopholes (e.g., latent license) ended up being a big problem. Some bought latent licenses with the money they got in the buyback. Those individuals never actually left the fishery and may have ultimately increased their active capacity in the fishery. It's imperative to think through all the loopholes related to your ultimate goal.
- There have been significant problems with the industry loan. For the first year of the loan the mechanism to collect the buyback repayment was not active so industry was charged interest for the first year without the ability to pay on the loan. The rate of 5% has also been really difficult on the industry (they currently owe about 2/3 of the initial principle after paying on it for 15 years[56]). The addition of 3% cost recovery and 100% industry funded observer coverage (required under the IFQ) have further compounded the costs on the industry.[57]

[52] NOAA Fisheries Funding and Financial Services, Pacific Coast Groundfish Buyback and PFMC draft five-year review of groundfish trawl ITQ program
[53] PFMC draft five-year review of groundfish trawl ITQ program
[54] PFMC April 2004 briefing book (good source for more info on latent licenses)
[55] PFMC April 2004 briefing book
[56] NOAA Fisheries Funding and Financial Services, Pacific Coast Groundfish Buyback
[57] Personal communication with PFMC members and staff

4.6 Maryland and Virginia Blue Crab, 2009

The states of Maryland and Virginia implemented buyback programs for commercial blue crab pot licenses in 2009, funded through federal disaster funding. Blue crab is a single stock fishery managed in coordination by Maryland, Virginia and the Potomac River Fisheries Commission. Licenses in both states are limited entry. The buyback was intended to help rebuild the stock (which had been experiencing overfishing) and support a more sustainable fishery once rebuilt. There was a significant amount of latent effort in both fisheries, with half to one-third of licenses going unused in any given year. The buyback was largely targeted at latent licenses, which managers felt was important to improve management uncertainty and prevent re-entry into the fishery.[58]

Maryland

Maryland had a budget of $3 million for the buyback to purchases licenses (not vessels or gear). The state first began a reverse auction program but then rejected all bids and conducted the buyback as a fixed bid program.

Reverse auction

- Program elements
    - The target was to remove 2,000 licenses with the $3 million in funding
    - Designed as a reverse auction where lower bids would be accepted first (no scaler or other prioritization), the state also included a provision that would allow the state to set a maximum price, based the distribution of bids and a previous economic analysis, above which bids would be rejected.
    - License holders were also informed that the following year new regulations would be put in place to restrict the transferability and use of latent license, intended to entice participation in the buyback program. (Similar regulations had previously been proposed but were never implemented.)
- Results
    - Participation in the buyback was much lower than expected (e.g., only 27% of latent licenses) and bids were much higher than expected. As a result, Maryland rejected all bids and moved to a fixed bid program.

Fixed bid

- Program elements
    - The state offered a fixed price to license holders of $2,260, which was less than half of the median bid of $4,950 in the reverse auction.
    - The new regulations restricting latent licenses were enacted prior to the fixed bid program.
- Results
    - Participation in the fixed bid program was much higher than auction and driven primarily by the increase in participation from the latent license category. However, they only utilized 49% of the available budget.

[58] G.S.DePiper, University of Maryland Dissertation, 2012, To bid or not to bid

- About 54% of individuals who accepted the fixed bid did not place a bid in the reverse auction.
- For latent licenses, 74% (210 of 285) of those who bid in the reverse auction accepted the fixed bid offer
- For active licenses, only 41% of those who accepted the fixed bid had participated in the auction. A quarter of those (who bid in the reverse auction and ultimately accepted the fixed bid offer) had bid at least double the fixed bid amount in the auction.

Virginia

Virginia had a budget of $6.7 million and held a reverse auction with an effort scaler and specific allocation of funds across three classifications of licenses.

Program elements

- Licenses were classified as full time, part time and wait list, based on average harvest from 2004-2007. Wait list licenses, classified as such prior to the buyback, were not able to transfer, sell or use their licenses until the crab population exceeded 200 million for three consecutive years. The budget was allocated 50% full time, 30% part time and 20% wait list.
- Bids were divided by the maximum number of pots allowed with the licenses and the average days of reported harvest, to calculate a bid per pot day. Bids were then ranked in ascending order for each category and licenses were purchased from lowest to highest until all funds were exhausted for each category.
- Participants in the buyback were not excluded from purchasing another permit and reentering the fishery.

Results

- Virginia purchased 359 licenses and spent all funds.
- 24% of the budget was used to buy licenses from individuals who turned around and re-entered the fishery (many of the whom bought multiple licenses upon re-entry)
- Participation rates were quite a bit higher in Virginia than in Maryland. Bids were also higher in Virginia, given that the number of pots allowed for each license was larger in Virginia (i.e., greater earning potential for VA licenses), and there was a much smaller supply of licenses in Virginia.

Lessons learned and considerations

A dissertation by Geret Sean DePiper (University of Maryland, 2012) analyzed the Maryland and Virginia blue crab buybacks to explore license valuation, participation decisions and lessons learned for program design. The following are findings from this work:[59]

- The efficiency of a reverse auction depends on buying goods back from those who value them the least (i.e., willing to sell for the lowest price). However, individuals with low willingness to accept values and low engagement in the fishery may not participate in

[59] G.S. DePiper, University of Maryland Dissertation, 2012, To bid or not to bid

auctions. Thus, those "most often targeted by buyback policies are exactly those least prepared to engage in the process of submitting a bid for their holdings."[60] As a result, the Maryland and Virginia buybacks fell far short of the licenses that could have been purchased given the non-participation of individuals who were actually willing to accept relatively low values. Essentially, more capacity could have been removed for less money.

- Decision uncertainty associated with buybacks (e.g., whether or not to submit a bid and for how much) can hinder participation. These participation costs (e.g., gathering information on which to formulate a bid) can be a deterrent, and most common with those who are less engaged and have relatively low willingness to accept values.
    - Reverse auctions tend to see higher bids and lower participation; fixed bids tend to see higher participation, perhaps as a result of reducing value uncertainty. The switch to a fixed-bid program in Maryland provided license holders with more information (i.e., it sent a strong signal as to fair market value) and thus reduced the decision barrier.
- Bids and participation in auctions depend on more than profits
    - Bequest and enjoyment are important factors in the decision to bid and may increase bid amounts above what historical usage or profit patterns may suggest. Non-use factors (e.g. family tradition) may also influence participation and willingness to accept values.
    - Expected future usage informs the decision of whether or not to sell a license; however, the expectation of future use can differ significantly from past usage patterns. Providing clarity on the current and future outlook for the fishery can assist fishermen with anticipating future profitability and thus the decision of whether or not to participate in a buyback.
    - Exit inertia can keep individuals fishing long after profits drop to a point where they should exit the fishery. This can be due to fishermen not being able to recoup high fixed entry costs upon exit.

[60] G.S. DePiper, University of Maryland Dissertation, 2012, To bid or not to bid

4.7 Canada Pacific Integrated Commercial Fisheries Initiative, 2007 – Current

Canada's Department of Fisheries and Oceans (DFO) runs a program called the Pacific Integrated Commercial Fisheries Initiative (PICFI) through which the government purchases licenses and quota to support greater First Nation participation in commercial fisheries and rural development of indigenous communities. While the primary driver is reallocation of fishing privileges, PCFI also "supports greater certainty and stability around fisheries access and allocation, necessary for sustainable fisheries" and "supports First Nation aspirations while providing exit opportunities for commercial harvesters."[61]

Program Objectives

Objectives for the PICFI program are to:

- "To acquire a broad range of access coast-wide, through voluntary relinquishment of existing commercial fishing licence eligibilities and quota, in support of increased First Nation participation in commercial fisheries
- To support the development of sustainable First Nation commercial fishing enterprises by acquiring a diverse array of access to commercial fisheries for various species (licence eligibilities and quota)
- To provide licence eligibility and quota relinquishment opportunities for commercial harvesters who wish to retire from a particular fishery"[62]

Program Elements

The program was launched in 2007 and is run through a structured process:[63]

- Budget – Each year DFO staff develop a budget based on the types of license and quota they are looking to purchase and information on the value of those assets, below.
- License and vessel valuation study – DFO contracts with an external consultant to conduct an annual study on the current market value of the different types of licenses and quota holding. The study has been conducted annually for 20 years.
- Solicitation and bidding – DFO sends a mailing to license holders to request applications. Applications are submitted and specify which types of license and quota they want to sell and the amount they are requesting in exchange. There is no negotiation or back and forth between DFWO and applicants. The bids are considered as is.
- Value for money – DFO then evaluates the applications based on a value-for-money metric (a program they developed to compare the asking price with fair market value).
- Acceptance of bids – DFO then decides internally which applications to accept given the goals and annual budget and creates relinquishment agreements. Applications to DFO are not considered binding, and approximately 20-30% of applicants end up changing their minds and not selling their licenses and/or quota.

[61] DFO Pacific Integrated Commercial Fisheries Initiative website
[62] DFO Pacific Integrated Commercial Fisheries Initiative website
[63] Personal communication with DFO Canada staff

More recently the program has shifted away from transferring licenses and quota to indigenous groups to providing funds that support First Nations in purchasing them on the open market. Relinquishment bids are still run through the above process; however, they are more targeted than in prior years (e.g., needing specific quota to support a treaty negotiation).

Lessons learned and considerations

Conversations with DFO Canada staff highlight several lessons and considerations that may be helpful in developing license reduction programs.[64]

- The annual valuation report is an important component to the program and allows DFO to budget for the program and ensure good value for money. While license holders are not provided with a price range by DFO, they valuation report is available upon request to license holders.
- It may be valuable to consider running the process at multiple times throughout the year. This could support the voluntary nature of the license reduction program while allowing bidding to close so that offers can be ranked. This could also help ensure equal opportunity for license holders who are unavailable at certain times of the year. However, there are overhead costs each time the program is run.
- It's important to be aware of the audience you're trying to approach. Some communities and individuals may not have access to or comfort with technology so you will need to use more traditional means to reach them.

4.8 Additional examples to explore

Some additional examples that could be explored include:

- Programs that targeted the removal of latent licenses (e.g., New England groundfish)
- State funded programs
- Columbia River buyback in 1980s
- British Columbia commercial salmon fisheries
- Puget Sound salmon economic assistance program
- Longline Coastal Pelagic Non-Pollock Groundfish, 2006
- BSAI Crab buyback, 2007

[64] Personal communication with DFO Canada staff

Appendix

Federal and State Legal Framework

Magnuson Stevens Act

312(a) Fisheries Disaster Relief

- Requires fishery resource disaster to be the result of a) natural causes, b) manmade causes beyond the control of fishery managers to mitigate, or c) undetermined causes. Manmade causes (b) could include regulatory restrictions imposed to protect human health or the marine environment.
- Federal costs sharing is capped at 75% (i.e. state would have to put up >25%)
- NMFS Policy Directive 01-122 (rev. 6/16/2011) provides further detail on the process and qualifications for disaster assistance under MSA 312(a) or IFA 308(b)

312(b) Fishing Capacity Reduction Program

- Secretary may conduct voluntary fishing capacity reduction program if determined that the program:
    - "a) is necessary to prevent or end overfishing, rebuild stocks of fish, or achieve measurable and significant improvements in the conservation and management of the fishery
    - b) is consistent with the Federal or State fishery management plan or program in effect for such fishery, as appropriate, and that the fishery management plan
        - (i) will prevent the replacement of fishing capacity removed by the program through a moratorium on new entrants, practicable restrictions on vessel upgrades, and other effort control measures, taking into account the full potential fishing capacity of the fleet; and
        - (ii) establishes a specified or target total allowable catch or other measures that trigger closure of the fishery or adjustments to reduce catch; and
    - (C) is cost-effective and, in the instance of a program involving an industry fee system, prospectively capable of repaying any debt obligation…"
- The objective of the program is to obtain the maximum reduction of capacity at the least cost and in the minimum period of time; MSA authorizes secretary to pay the owner of a vessel (if license linked to vessel) or owner of a permit.
- Participation in the program shall be voluntary
- Programs can be funded through any combination of federal funds, appropriations, public or private funds (e.g., state, private or non-profit organizations), and industry fee systems. There are no standing funds for buybacks so funds must be appropriated for such a purpose (NMFS 01-122)
- Programs would be implemented through federal regulations to establish the program and control its implementation, and the Secretary will contract with each person participating in the program

- The program would need to be either based on fair market assessment or a reduction auction that scores the reduction price of each bid offer by a fisheries productivity factor and first accepts those whose bid price is the lowest percentage of the productivity factor.

50 CFR, Part 600 MSA Fishing Capacity Reduction Framework

- This provides additional detail on the process and parameters for license reduction, last amended in 2010.

Merchant Marine Act, Title XI

- New sections were added to the Merchant Marine Act (sections 1111 and 1112) to finance capacity reduction costs. These sections established an industry fee system for industry funding of programs under MSA section 312.
- The Merchant Marine Act outlines requirements for guaranteed debt obligations, authorizes loans for financing the cost of capacity reduction programs, and established a fishing capacity reduction fund in the Treasury.

Interjurisdictional Fisheries Act

308(b) Authorizations and Appropriations, Additional Appropriations

- In addition to general appropriations, funds may be available and prioritized for states experiencing a "commercial fishery failure or serious disruption affecting future production due to a fishery resource disaster arising from natural or undetermined causes."
- The Federal share of the cost is capped at 75%

308(d) Assistance to Commercial Fishermen

- Additional funds may be appropriated for persons engaged in commercial fisheries to alleviate the harm incurred as a direct result of a hurricane or any other natural disaster.
- Assistance may not be provided as part of a fishing capacity reduction program in a fishery unless the secretary determines that adequate conservation and management measures are in place for that fishery
- Several conditions are laid out for awarding assistance under the IFA for capacity reduction (e.g., vessels prohibited from future fishing)
- NMFS Policy Directive discusses that disaster funding should not contribute to the continuation of overfishing and that capacity reduction could be a component to the fishery disaster assistance. However, the requirements of a fishery resource failure from natural or undetermined causes must still be the driver for the disaster funding; capacity reduction is authorized only as part of the response to that disaster.

Mitchell Act

Not yet explored.

Revised Code of Washington

Washington Administrative Code includes two sections pertinent to license reduction: 77.80 and 77.70.[65]

RCW 77.80 Program to Purchase Fishing Licenses and Vessels

RCW 77.80.020 Program authorized—Conditions.
(1)(a) The department may purchase commercial fishing vessels and appurtenant gear, and the current state commercial fishing licenses, delivery permits, and charter boat licenses if the license or permit holder was substantially restricted in fishing as a result of compliance with *United States of America et al. v. State of Washington et al.,* Civil No. 9213, United States District Court for Western District of Washington, February 12, 1974, and *Sohappy v. Smith,* 302 F. Supp. 899 (D. Oregon, 1969), as amended, affirmed, and remanded 529 F. 2d 570 (9th Cir., 1976).
(b) The department may also make such purchases if the license or permit holder was substantially restricted in fishing as a result of compliance with *United States of America et al. v. State of Washington et al*., 873 F. Supp. 1422 (W.D. Wash. 1994) as affirmed in part, reversed in part, and remanded 157 F.3d 630 (9th Cir., 1998), if the federal government provides funding to the state for the purpose of initiating these purchases.
(2) The department shall not purchase a vessel under this section without also purchasing all current Washington commercial fishing licenses and delivery permits and charter boat licenses issued to the vessel or its owner. The department may purchase current licenses and delivery permits without purchasing the vessel.

RCW 77.80.030 Determination of purchase price—Maximum price.
The purchase price of a vessel and appurtenant gear shall be based on a survey conducted by a qualified marine surveyor. A license or delivery permit shall be valued separately.
The director may specify a maximum price to be paid for a vessel, gear, license, or delivery permit purchased under RCW 77.80.020. A license or delivery permit purchased under RCW 77.80.020 shall be permanently retired by the department.

RCW 77.80.040 Disposition of vessels and gear—Prohibition against using purchased vessels for fishing purposes.
The department may arrange for the insurance, storage, and resale or other disposition of vessels and gear purchased under RCW 77.80.020. Vessels shall not be resold by the department to the seller or the seller's immediate family. The vessels shall not be used by any owner or operator: (1) As a commercial fishing or charter vessel in state waters; or (2) to deliver fish to a place or port in the state. The department shall require that the purchasers and other users of vessels sold by the department execute suitable instruments to ensure compliance with the requirements of this section. The director may commence suit or be sued on such an instrument in a state court of record or United States district court having jurisdiction.

[65] RCW's identified by WDFW staff

RCW 77.80.060 Vessel, gear, license, and permit reduction fund.
(1) The director is responsible for the administration and disbursement of all funds, goods, commodities, and services received by the state under this chapter.
(2) There is created within the state treasury a fund to be known as the "vessel, gear, license, and permit reduction fund". This fund shall be used for purchases under RCW 77.80.020 and for the administration of this chapter. This fund shall be credited with federal or other funds received to carry out the purposes of this chapter and the proceeds from the sale or other disposition of property purchased under RCW 77.80.020.

RCW 77.70 License Limitation Programs

RCW 77.70.090 Commercial salmon fishing licenses and delivery licenses—Limitations—Transfer.
(1) Except as provided in subsection (2) of this section, after May 6, 1974, the director shall issue no new commercial salmon fishery licenses or salmon delivery licenses. A person may renew an existing license only if the person held the license sought to be renewed during the previous year or acquired the license by transfer from someone who held it during the previous year, and if the person has not subsequently transferred the license to another person.
(2) Where the person failed to obtain the license during the previous year because of a license suspension, the person may qualify for a license by establishing that the person held such a license during the last year in which the license was not suspended.
(3) Subject to the restrictions in RCW 77.65.020, commercial salmon fishery licenses and salmon delivery licenses are transferable from one license holder to another.

RCW 77.70.450 Commercial fisheries buyback account.
The commercial fisheries buyback account is created in the custody of the state treasurer. All receipts from money collected by the commission under RCW 77.70.460, moneys appropriated for the purposes of this section, and other gifts, grants, or donations specifically made to the fund must be deposited into the account. Expenditures from the account may be used only for the purpose of repaying moneys advanced by the federal government under a groundfish fleet reduction program established by the federal government, or for other fleet reduction efforts, commercial fishing license buyback programs, or similar programs designed to reduce the harvest capacity in a commercial fishery. Only the director of the department or the director's designee may authorize expenditures from the account. The account is subject to allotment procedures under chapter 43.88 RCW, but an appropriation is not required for expenditures.

Oregon Revised Statutes

There are a number of Oregon Revised Statues and Oregon Administrative Rules pertaining to the management of the Oregon commercial gillnet fishery on the Columbia River.[66]

[66] Identified by ODFW staff

Oregon Revised Statues (ORS), Chapter 508, Licenses and permits[67]

- ORS 508.775 – Vessel permit required to engage in fishery
- ORS 508.778 – Limitation on issuance of permits
- ORS 508.781 – Renewal of permit
- ORS 508.784 – Considerations in determining eligibility for permit
- ORS 508.792 – Lottery system for permit issuance
- ORS 508.793 – Permit transfer restrictions
- ORS 508.796 – Review of permit denial

Oregon Administrative Rules (OAR), Chapter 635, Division 6: Commercial fisheries: gear, licenses, poundage fees, records and reports:[68]

- 635-006-1015 Requirement for Permit
- 635-006-1025 Permit Fee
- 635-006-1075 Renewal of Limited Entry Permit
- 635-006-1085 Lottery for Certain Limited Entry Fisheries
- 635-006-1095 Transferability of Permits

[67] Oregon Revised Statues, Chapter 508 Licenses and Permits (https://www.oregonlaws.org/ors/chapter/508); link is to 2017; some of these provisions are found in other years' ORS.
[68] Oregon Administrative Rules, Chapter 635 (https://secure.sos.state.or.us/oard/displayChapterRules.action?selectedChapter=81)